

Appl. No. 09/728,418
Amdt. Dated August 30, 2004
Reply to Office action of July 13, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) An apparatus comprising:
a table to store a plurality of entries for a packet in a sequence of packets of a message transmitted from a first network to a second network, the entries including a first connection identifier corresponding to the first network, the entries being obtained from a description file of the packet; and
a parser coupled to the table to parse the sequence of packets using the table, the parser extracting the first connection identifier.
2. (original) The apparatus of claim 1 further comprises:
a translator coupled to the parser to translate the first connection identifier into a second connection identifier corresponding to the second network.
3. (original) The apparatus of claim 2 wherein the table comprises:
at least a message type entry to specify a message type characterizing the message; and
at least a data type entry to specify a data type of a subsequent packet in the sequence of packets.
4. (original) The apparatus of claim 3 wherein the at least data type entry indicates a location of the first connection identifier in the subsequent packet.
5. (original) The apparatus of claim 3 wherein the at least data type entry comprises a termination entry to indicate that a remaining portion of the sequence of packets does not contain the first connection identifier.
6. (original) The apparatus of claim 5 wherein the parser skips the remaining portion of the sequence of packets upon recognizing the termination entry.

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7. (original) The apparatus of claim 1 wherein the first connection identifier is one of an address and a port identifier.

8. (original) The apparatus of claim 2 wherein the second connection identifier is one of an address and a port identifier.

9. (original) The apparatus of claim 1 wherein the first network is one of a private network and a public network.

10. (original) The apparatus of claim 1 wherein the second network is one of a private network and a public network.

11. (original) The apparatus of claim 1 wherein the description file is an abstract syntax notation (ASN) file.

12. (original) The apparatus of claim 11 wherein the table is generated by an ASN compiler.

13. (original) A method comprising:
storing in a table a plurality of entries for a packet in a sequence of packets of a message transmitted from a first network to a second network, the entries including a first connection identifier corresponding to the first network, the entries being obtained from a description file of the packet; and
parsing the sequence of packets using the table, the parser extracting the first connection identifier.

14. (original) The method of claim 13 further comprises:
translating the first connection identifier into a second connection identifier corresponding to the second network.

15. (original) The method of claim 14 wherein storing comprises:

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specifying a message type characterizing the message by at least a message type entry;
and

specifying a data type of a subsequent packet in the sequence of packets by at least a data type entry.

16. (original) The method of claim 15 wherein the at least data type entry indicates a location of the first connection identifier in the subsequent packet.

17. (original) The method of claim 15 wherein the at least data type entry comprises a termination entry to indicate that a remaining portion of the sequence of packets does not contain the first connection identifier.

18. (original) The method of claim 17 wherein parsing comprises skipping the remaining portion of the sequence of packets upon recognizing the termination entry.

19. (original) The method of claim 13 wherein the first connection identifier is one of an address and a port identifier.

20. (original) The method of claim 14 wherein the second connection identifier is one of an address and a port identifier.

21. (original) The method of claim 13 wherein the first network is one of a private network and a public network.

22. (original) The method of claim 13 wherein the second network is one of a private network and a public network.

23. (original) The method of claim 13 wherein the description file is an abstract syntax notation (ASN) file.

24. (original) The method of claim 23 wherein the table is generated by an ASN compiler.

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25. (original) A computer program product comprising:
a machine useable medium having computer program code embedded therein, the computer program product having:
computer readable program code to store in a table a plurality of entries for a packet in a sequence of packets of a message transmitted from a first network to a second network, the entries including a first connection identifier corresponding to the first network, the entries being obtained from a description file of the packet; and
computer readable program code to parse the sequence of packets using the table, the parser extracting the first connection identifier.
26. (original) The computer program product of claim 25 further comprises:
computer readable program code to translate the first connection identifier into a second connection identifier corresponding to the second network.
27. (original) The computer program product of claim 26 wherein the computer readable program code to store comprises:
computer readable program code to specify a message type characterizing the message by at least a message type entry; and
computer readable program code to specify a data type of a subsequent packet in the sequence of packets by at least a data type entry.
28. (original) The computer program product of claim 27 wherein the at least data type entry indicates a location of the first connection identifier in the subsequent packet.
29. (original) The computer program product of claim 27 wherein the at least data type entry comprises a termination entry to indicate that a remaining portion of the sequence of packets does not contain the first connection identifier.
30. (original) The computer program product of claim 29 wherein the computer readable program code to parse comprises computer readable program code to skip the remaining portion of the sequence of packets upon recognizing the termination entry.

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31. (original) A system comprising:
an end node in a first network to communicate a message to a second network; and
a router coupled to the end node to route the message, the router including a network address translation (NAT) processor, the NAT processor comprising:
a table to store a plurality of entries for a packet in a sequence of packets of the message, the entries including a first connection identifier corresponding to the first network, the entries being obtained from a description file of the packet, and
a parser coupled to the table to parse the sequence of packets using the table, the parser extracting the first connection identifier.
32. (original) The system of claim 31 wherein the NAT processor further comprises:
a translator coupled to the parser to translate the first connection identifier into a second connection identifier corresponding to the second network.
33. (original) The system of claim 32 wherein the table comprises:
at least a message type entry to specify a message type characterizing the message; and
at least a data type entry to specify a data type of a subsequent packet in the sequence of packets.
34. (original) The system of claim 33 wherein the at least data type entry indicates a location of the first connection identifier in the subsequent packet.
35. (original) The system of claim 33 wherein the at least data type entry comprises a termination entry to indicate that a remaining portion of the sequence of packets does not contain the first connection identifier.
36. (original) The system of claim 35 wherein the parser skips the remaining portion of the sequence of packets upon recognizing the termination entry.